

## CLAIMS

The following is a copy of Applicant's claims that identifies language being added with underlining ("\_\_\_\_") and language being deleted with strikethrough ("~~—~~"), as is applicable:

1. (Currently Amended) A pharmaceutical composition comprising a nucleic acid molecule of the short-chain dehydrogenase (SCAD) gene family or a polypeptide encoded thereby or a fragment or a variant of said nucleic acid molecule or said polypeptide or an effector of a nucleic acid molecule of the SCAD gene family or said polypeptide, e.g. an antibody, an aptamer or another receptor recognizing a nucleic acid molecule of the SCAD gene family or said polypeptide encoded thereby, preferably together with pharmaceutically acceptable carriers, diluents and/or adjuvants, wherein the nucleic acid molecule is selected from: a vertebrate SCAD nucleic acid encoding a human protein (SEQ ID NO: 2), a human CGI-82 protein (SEQ ID NO: 4), a human PAN2 protein (GenBank Accession Number NP\_065956 for the protein, NM\_020905 for the cDNA), a mouse DG21-1 protein (GenBank Accession Number AK\_020927), or a mouse DG21-2 protein (GenBank Accession Number AB\_030503).
- 2-10 (Canceled)
11. (Currently Amended) The composition of ~~any one of claims~~ claim 4-10 1 which is a diagnostic composition.
12. (Currently Amended) The composition of ~~any one of claims~~ claim 4-10 1 which is a therapeutic composition.
13. (Currently Amended) The composition of ~~any one of claims~~ claim 4-12 1 for the manufacture of an agent for detecting and/or verifying, for the treatment, alleviation and/or prevention of an disorders, including metabolic diseases such as obesity and other body-weight regulation disorders as well as related disorders such as metabolic syndrome, eating disorder, cachexia, diabetes mellitus, hypertension, coronary heart disease, hypercholesterolemia, dyslipidemia, osteoarthritis and/or gallstones and others, in cells, cell masses, organs and/or subjects.

14. (Currently Amended) Use A method comprising, administering to a host of a nucleic acid molecule of the SCAD gene family or a polypeptide encoded thereby or a fragment or a variant of said nucleic acid molecule or said polypeptide or an effector, e.g. an antibody, an aptamer or another receptor recognizing a nucleic acid molecule of the SCAD gene family or a polypeptide encoded thereby for controlling the function of a gene and/or a gene product which is influenced and/or modified by a SCAD homologous polypeptide, wherein the nucleic acid molecule is selected from: a vertebrate SCAD nucleic acid encoding a human protein (SEQ ID NO: 2), a human CGI-82 protein (SEQ ID NO: 4), a human PAN2 protein (GenBank Accession Number NP\_065956 for the protein, NM\_020905 for the cDNA), a mouse DG21-1 protein (GenBank Accession Number AK\_020927), or a mouse DG21-2 protein (GenBank Accession Number AB\_030503).
15. (Currently Amended) Use A method comprising, administering to a host of the a nucleic acid molecule of the SCAD gene family or a polypeptide encoded thereby or a fragment or a variant of said nucleic acid molecule or said polypeptide or an effector, e.g. an antibody, an aptamer or another receptor recognizing a nucleic acid molecule of the SCAD gene family or a polypeptide encoded thereby for identifying substances capable of interacting with a SCAD homologous polypeptide, wherein the nucleic acid molecule is selected from: a vertebrate SCAD nucleic acid encoding a human protein (SEQ ID NO: 2), a human CGI-82 protein (SEQ ID NO: 4), a human PAN2 protein (GenBank Accession Number NP\_065956 for the protein, NM\_020905 for the cDNA), a mouse DG21-1 protein (GenBank Accession Number AK\_020927), or a mouse DG21-2 protein (GenBank Accession Number AB\_030503).
- 16-26 (Canceled)
27. (Currently Amended) A kit comprising at least one of (a) a SCAD nucleic acid molecule or a fragment thereof; (b) a vector comprising the nucleic acid of (a); (c) a host cell comprising the nucleic acid of (a) or the vector of (b); (d) a polypeptide encoded by the nucleic acid of (a); (e) a fusion polypeptide encoded by the nucleic acid of (a); (f) an antibody, an aptamer or another receptor against the

nucleic acid of (a) or the polypeptide of (d) or (e) and (g) an anti-sense oligonucleotide of the nucleic acid of (a), wherein the nucleic acid molecule is selected from: a vertebrate SCAD nucleic acid encoding a human protein (SEQ ID NO: 2), a human CGI-82 protein (SEQ ID NO: 4), a human PAN2 protein (GenBank Accession Number NP\_065956 for the protein, NM\_020905 for the cDNA), a mouse DG21-1 protein (GenBank Accession Number AK\_020927), or a mouse DG21-2 protein (GenBank Accession Number AB\_030503).